

**STAFF REPORT TO THE PUBLIC HEALTH COUNCIL
FOR A DETERMINATION OF NEED**

Applicant Name	Partners HealthCare System, Inc. Massachusetts General Physician's Organization (MGPO)
Applicant Address	800 Boylston Street, Suite 1150, Boston, MA, 02199
Filing Date	October 7, 2019
Type of DoN Application	DoN Required Equipment
Total Value	\$14,983,573
Project Number	PHS-19093011- HS
Ten Taxpayer Groups (TTG)	Melrose Wakefield Healthcare Shields Health Care Group
Community Health Initiative (CHI)	\$749,178.65
Staff Recommendation	Approval
Public Health Council	February 12, 2020

Project Summary and Regulatory Review

Partners HealthCare and MGPO submitted an Application for a Proposed Project to expand MGPO's existing imaging clinic through the addition of three 3T magnetic resonance imaging (MRI) units. The new units will be located in a new clinic satellite at 391 Revolution Drive, Store 1126, Somerville, MA 02145, heretofore called "MGPO Assembly Row." The capital expenditure for the Proposed Project is **\$14,983,573**; the Community Health Initiatives (CHI) contribution is \$749,178.65.

This DoN application falls within the definition of DoN-Required Equipment and Services, which are reviewed under the DoN regulation 105 CMR 100.000. The Department must determine that need exists for a Proposed Project, on the basis of material in the record, where the Applicant makes a clear and convincing demonstration that the Proposed Project meets each Determination of Need Factor set forth within 105 CMR 100.210. This staff report addresses each of the six factors set forth in the regulation.

A public hearing was held on November 20, 2019 at the request of two Ten Taxpayer Groups that formed in response to this project.

The Applicant asked for the correction of Scrivener's errors and a change to one condition; **these appear in red throughout this version of the Staff Report. This document replaces the original Staff Report in its entirety.**

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APPLICATION OVERVIEW

Background: Partners and MGPO

The Applicant is Partners HealthCare System, Inc. (Partners), a nonprofit integrated health care system that was formed in 1994 by an affiliation between The Brigham Medical Center, Inc. (now known as Brigham Health) and Massachusetts General Hospital.¹ Partners' components relevant to this application are:

- Massachusetts General Hospital (MGH) main campus, which includes 10 MRIs (six 3T units² and four 1.5T units) for inpatient and outpatient use
- Massachusetts General Physician's Organization (MGPO), a multi-specialty medical group comprised of 2,700 physicians, which provides specialty services at MGH licensed facilities and at the MGPO physician practice locations. It also:
 - staffs and manages the radiology department at
 - MGH's main campus (with ten MRI units as noted above)
 - ~~a satellite, Mass General/North Shore Center for Outpatient Care in Danvers, MA (with one 1.5T unit)~~
 - operates a licensed clinic for freestanding imaging services ("MGPO Waltham" and "MGPO Chelsea" each operating under a single license at MGPO Waltham)
 - MGPO Waltham, which currently has four MRI units (two 1.5T MRI units and two 3T MRI units). It received a DoN approval for two additional 3T MRI units in January 2019, not yet operational.^{2,3}
 - MGPO Chelsea ~~(with two 1.5T MRI units)~~ (with one 3T and one 1.2T open bore MRI)
- Partners HealthCare Accountable Care Organization, which is a Health Policy Commission (HPC) certified Accountable Care Organization (ACO).⁴ The ACO manages Medicare ~~(Next Generation ACO)~~ Medicare Shared Savings Program and MassHealth (Partners HealthCare Choice) ACO programs.

The Proposed Project is for the expansion of MGPO's existing imaging clinic through the addition of three 3T magnetic resonance imaging (MRI) units at a new site, MGPO Assembly Row in Somerville. The Applicant states that the MGH MRIs and those MRIs operated by MGPO are all operating at near capacity. By providing access to MRI services at MGPO Assembly Row, the Applicant will be able to shift appropriate patients out of receiving scans at the MGH main campus to a lower-cost community-based ambulatory care setting. In so doing, the Applicant hopes to reduce wait times and free up imaging resources at MGH for acute patients who require quick access to care in a hospital setting.

¹ Partners operates two tertiary care hospitals, six community acute care hospitals, and one acute care specialty hospital in Massachusetts; one community acute care hospital in Southern New Hampshire; one facility providing inpatient and outpatient mental health services; and three facilities providing in- and outpatient services in rehabilitation medicine and long-term care. It also operates physician organizations and practices, a home health agency, nursing homes, a program for training graduate level health professionals, as well as a licensed, nonprofit managed care organization that offers health insurance products to MassHealth, Commonwealth Care, and commercial insurance populations.

² includes interoperative

³ Partners DoN Application # PHS-18090711-HS 9/11/2018

OVERVIEW of PROPOSED PROJECT AND FACTOR REVIEW

Description of Proposed Project Component	What's Needed to Meet Factor 1: Demonstration of need ; improved health outcomes and quality of life; assurances of health equity; continuity and coordination of care; evidence of community engagement; and competition on recognized measures of health care spending.	What's Needed to Meet Factor 2: Demonstration of cost containment , improved public health outcomes, and delivery system transformation.	Factors 3, 4 & 5 ⁴	What's Needed to Meet Factor 6: Demonstration of plans for fulfilling ... responsibilities ... in the DPH Community-based Health Initiatives Guideline.
	<i>Staff Report finds</i>			
	MEETS w/ CONDITIONS	MEETS w/ CONDITIONS	MEETS	MEETS w / CONDITIONS
Proposed addition of 3 MRIs to address patient need (current wait times and anticipated future demands).	<ul style="list-style-type: none"> Report on MRI use at the MGH Main Campus and all 3 MGPO Sites, in order to fully assess the impact of shifting utilization of MRIs away from the MGH main campus Report on the percentage of orders for MRI coming from Partners' affiliated providers as opposed to those from any other provider Report on use of clinical decision support tool Report on other standard outcome measures revised from the Applicant's proposed list, including reporting on a CMS efficiency measure designed to limit Low Value MRIs 	<ul style="list-style-type: none"> Report on use of clinical decision support tool Report on other standard outcome measures revised from the Applicant's proposed list, including reporting on a CMS efficiency measure designed to limit Low Value MRIs 	✓	<ul style="list-style-type: none"> Submit a detailed report on activities based on feedback and input from additional community meetings and engagement regarding community conditions Submit the completed Health Priorities Strategy Form

⁴ 3: Sufficient evidence of compliance and good standing with federal, state, and local laws and regulations

4: Sufficient documentation of the availability of sufficient funds for capital and ongoing operating costs necessary to support the Project without negative impacts or consequences to the Applicant's existing Patient Panel

5: The ... Project, on balance, is superior to alternative and substitute methods for meeting ... Patient Panel needs

Patient Panel⁵

Partners HealthCare served a large and diverse Patient Panel over the 36-month period covering Fiscal Year ("FY") 16-18, with ~~1,182,064~~ 1,504,478 unique patients. The number of patients utilizing Partners' services in the 3-year period has increased across all age cohorts since FY16.⁶ Partners has seen an increase in the percent of patients in the total patient population that are 65 and older (26.8-28.6% of the total patient population). The Applicant also notes that Partners had 19% of all acute care hospital discharges in Massachusetts in FY17.^b

Patient Information (FY 2018)

Table 1 below presents patient information for the Applicant (Partners), MGH/MGPO, and the MGH and MGPO MRI Patients (those using the service that is the focus of DoN Application) during Fiscal Year 2018. This "snapshot" provides important comparison information; staff notes the following observations about these data below:

- **Age** – The 18-64 age cohort comprises the majority (~62%) of Partners patients. ~~within this age cohort, about 37% is between the ages of 46-65.~~ Older adults (ages 65+) make up 27% of patients.
 - **Age for Imaging-** 63.5% of the patients receiving MRI services is non-elderly adults (18-65), with 42.97% of those in this age group being older, ages 46-65. ~32% of patients receiving these services is 65 or older.
- **Race and ethnicity**– Patients of Partners and MGH/MGPO are diverse with no significant variation from each other. For MRI, more than a third of the racial composition is unknown (likely indicating all such data is inaccurate).
- **Patient Origin** – The geographic origin of Partners' patients extends to all of Massachusetts. The largest portion of Partners patients come from Greater Boston (HSA 4), with nearly half of MGPO/MGH patients residing in that region.
- **Payer Mix** – There is a higher percentage of MassHealth and Managed Medicaid (MassHealth ACO) payments among Partners' MGPO patients than among MGPO Partners' patients; Medicare and commercial payments are slightly higher among MGPO Partners' patients than among Partners' MGPO.
- **ACO and Managed Care Contracts** -The Applicant operates an ACO subsidiary within its system. In ~~CY2018~~ CY2019, 57.9%⁷ of Partners' primary care lives were covered in risk contracts.⁸ The Applicant notes that this percentage is derived from the number of primary care lives among patients of the Partners' primary care physicians (PCPs) that are covered under risk contracts (in which Partners bears some risk).

⁵ As defined in 105 CMR 100.100, Patient Panel is the total of the individual patients regardless of payer, including those patients seen within an emergency department(s) if applicable, seen over the course of the most recent complete 36-month period by the Applicant or Holder.

⁶ With 1,380,203 unique patients in FY16, 1,409,382 unique patients in FY17 and 1,504,478 unique patients in FY18, Partners HealthCare had ~~1,182,064~~ 1,150,478 unique patients.

⁷ This percentage differs from the 36- month Patient Panel described in the DoN Application.

⁸ The number of risk members is for ~~CY2018~~ CY2019 and includes members from the following risk contracts: ~~Medicare ACO NextGen~~ Medicare Shared Savings Program, BCBS AQC and BCBS PPO, HPHC, TAHP, AllWays Commercial, and Medicaid ACO. The total number of patients within a PCP's panel is for CY 2019 adult and pediatric patients.

Table 1: Overview of Partners', MGPO, and MRI Patients, FY 2018⁹

	Partners Patients	MGH and MGPO Patients	MGH and MGPO MRI Patients
Total Unique Patients	1,504,478	566,395	48,910
Gender			
Male	41.9%	44.8%	44.4%
Female	58.1%	55.2%	55.6%
Age			
0-17	11.5%	14.0%	5.0%
18-64	61.7%	59.0%	63.5%
65+	26.8%	27.0%	31.5%
Race/Ethnicity¹⁰			
White	72.6%	73.2%	57.4%
Black or African American	5.5%	5.2%	3.3%
Asian	4.1%	5.2%	2.5%
Hispanic/Latino	1.4%	0.8%	0.8%
Native Hawaiian or Other Pacific Islander	0.1%	0.1%	.0%
American Indian or Alaska Native	0.1%	0.1%	.1%
Other/Unknown/Unavailable/declined	16.1%	15.4%	36.0%
Patient Origin (FY18)¹¹			Within 4 miles of 02145 or on Orange Line <i>19% of MGP/ MGPO Patients</i>
HSA 1	6.1%	1.3%	
HSA 2	3.3%	3.2%	
HSA 3	6.5%	5.8%	
HSA 4	43.4%	49.0%	
HSA 5	13.6%	8.6%	
HSA 6	16.2%	17.3%	
Outside of MA/International	10.5%	14.3%	
Unknown	0.4%	0.5%	
Payer Mix¹² (FY18)			
Commercial ¹³	59.2%	53.6%	
Managed Medicaid	5.5%	15.6%	
MassHealth	3.5%	2.4%	
Commercial Medicare	4.4%	4.6%	
Medicare FFS	23.2%	20.6%	
Other ¹⁴	4.2%	3.1%	Not available

⁹ FY 2018: The table presents patient information for the Applicant (Partners), MGH/MGPO, and the MGH and MGPO MRI Patients, those using the service that is the focus of DoN Application. This “snapshot” provides important comparison information for a single year but does not include the entire Patient Panel over the required 36 month period.

¹⁰ based on self-reporting

¹¹ aggregated zip code data by HSA

¹² reflects aggregate Partners HealthCare revenue for 2016-2018P All data provided by Partners in Application or in response to DPH follow-up questions

¹³ Commercial = Allways Health Commercial, Blue Cross Blue Shield, Commercial National Carriers, Commercial Other, Connector Care Plans, Harvard Pilgrim Health Plan, International, Qualified Health Plans, Tufts Health Plan.

¹⁴ Other = Government Other, Other Payor, Self-Pay, Workers Comp, Unknown Summary Payor.

Factor 1a: Patient Panel Need

In this section, we assess if the Applicant has sufficiently addressed Patient Panel need for the three new MRI units.

Patient Panel Need

The Applicant attributes the need for additional capacity to four interrelated factors:

- a) Need to address current high utilization and extended wait times for MRI at all MGH/MGPO sites, in particular at MGH main campus
- b) Need to provide convenient, local access to MRI in a community setting for the Patient Panel population living in and near Somerville
- c) Need to address overall increase in demand and projected volume
- d) Need to address growth in demand due to an aging population at risk for particular conditions and diseases

a) Need to address current high utilization and extended wait times for MRI at all MGH/MGPO sites, in particular at MGH main campus

As part of all Partners' patients, the MGH/MGPO patient population consists of approximately 567,000 patients. The annual number of patients has increased 3% from FY 2016. The Applicant noted both existing capacity constraints and future needs of its combined MGH and MGPO imaging patients. Over the last three fiscal years,¹⁵ Applicant states that the number of patients utilizing MGH's and MGPO's MRI services increased by 2.3%; scan volumes have also grown across all its sites, increasing by nearly 9% from FY16-18. Partners asserts that all of its MRI units are operating at or near capacity and cites long wait times to obtain a scan --in particular at the main campus¹⁶-- where availability is needed for acute inpatients as well as for outpatients with implantable devices who need monitoring. As discussed further herein, the expansion of capacity at MGPO Assembly Row will allow for the offloading of some outpatient volume to that site. As stated by the Applicant:

"The anticipated transfer of utilization to the proposed new MGPO Assembly Row MRI units will relieve some of the capacity constraints and wait times currently experienced at MGH's main campus, thereby freeing up hospital resources for more critical patients that require immediate attention and access to imaging technology. In turn, this will result in shorter wait times to the next available appointments across MGH's and MGPO's imaging locations as demand continues to grow into the future and will ensure that patients receive care at the location best-suited to meet their specific medical needs."

b) Need to provide convenient local access in a community setting for the Patient Panel

As part of Partners Patient Panel, a local population is the main focus of the proposed site, since ~19% of the MGH/MGPO patient population resides within 4 miles of said site (in addition to its proximity to the MBTA Orange line and Interstate 93). The Applicant's zip code analysis indicates that greater than 18% of MGH/MGPO's MRI patients live within 4 miles of Somerville and that another 1% live along the Orange Line (beyond the 4-mile radius), which is within walking distance of the proposed site. The Applicant based their estimate on geographic origin data among the MGH Patient Panel as well as the MGPO MRI patient population. Finally, the Applicant described the convenience of the local site: patients generally elect to receive care close to home and that the location will be easier to navigate, since it is free from the complexities of a large academic medical center campus.

¹⁵ FY 2016-2018

¹⁶ At MGH's main campus, patients needing outpatient imaging services experience average wait times of 55 days for MRI, assuming an 8-5 M-F available appointment time.

c) Need to address overall increase in demand and projected volume

The Applicant noted that the anticipated transfer of utilization to the proposed new MGPO Assembly Row MRI units will relieve some of the capacity constraints currently experienced at MGH's main campus.

As shown in Table 2, the Applicant outlined the historical outpatient MRI scan volume, as well as outpatient scan projections for MGH's Main Campus (for the ten most common CPT codes) if no new MRIs were to be acquired/made operational.

Table 2: MGH Main Campus Outpatient MRI Historical Volume and Scan Projections									
Ten Most Common CPT Code #s	Definition	Number of Scans			Scan Projections				
		2017	2018	2019	2020	2021	2022	2023	2024
1. 70553	Brain Combo	6,177	6,644	6,943	7,013	7,083	7,154	7,225	7,297
2. 70551	Brain	4,040	4,235	4,384	4,428	4,472	4,517	4,562	4,608
3. 74183	Abdomen Combo	1,947	2,248	2,527	2,552	2,578	2,604	2,630	2,656
4. 70544	Angiography, Head	2,127	2,087	2,223	2,245	2,268	2,291	2,313	2,337
5. 72148	Lumbar Spine	1,313	1,586	1,622	1,638	1,655	1,671	1,688	1,705
6. 72197	Pelvis Combo	1,465	1,800	1,621	1,637	1,653	1,670	1,686	1,703
7. 72141	Cervical Spine	1,098	1,295	1,366	1,379	1,393	1,407	1,421	1,435
8. 73721	Lower Extremity Joint w/o Contrast	935	1,140	1,228	1,240	1,252	1,265	1,278	1,290
9. 70548	Angiography, Neck w/contrast	1,047	837	918	928	937	946	956	965
10. 72156	Cervical Spine Combo	790	871	914	923	933	942	951	961

In total, projections (without newly operational MRIs) show a little over 24,000 outpatient scans would be done in 2021, which would increase slightly each year through 2024, as shown below.

2021	2022	2023	2024
24,224	24,467	24,710	24,957

In Table 3, the Applicant compared these data to how MGH outpatient volume would change¹⁷ when the new MRI units (previously approved MGPO Waltham¹⁸ as well as the proposed Assembly Row site) would become operational across the 10 most common CPT codes.

Table 3: Potential Reduction in Scan Projections for MGH's Main Campus due to MG Waltham and Assembly Row Expansions					
Ten Most Common CPT Code #s	Definition	Scan Projections			
		2021¹⁹	2022²⁰	2023	2024
1. 70553	Brain Combo	-1,417	-1,431	-1,445	-1,459
2. 70551	Brain	-894	-903	-912	-922
3. 74183	Abdomen Combo	-516	-521	-526	-531
4. 70544	Angiography, Head	-454	-458	-463	-467
5. 72148	Lumbar Spine	-331	-334	-338	-341
6. 72197	Pelvis Combo	-331	-334	-337	-341
7. 72141	Cervical Spine	-279	-281	-284	-287
8. 73721	Lower Extremity Joint w/o Contrast	-250	-253	-256	-258
9. 70548	Angiography, Neck w/contrast	-187	-189	-191	-193
10. 72156	Cervical Spine Combo	-187	-188	-190	-192

In total, these projections (with the new machines in use) show there would be a yearly reduction in scans of about 20% per year (as shown below).

2021	2022	2023	2024
-4,846	-4,892	-4,942	-4,991

Table 4 below shows the projected volume for MGPO Assembly Row for the top ten CPT codes, which is shown to increase each year. The Applicant also provided data suggesting that the growing demand for MRI is driven in part, by improvements in both MRI imaging technology^c that has expanded the diagnostic capabilities across many specialties including the fields of cardiology, neurology, orthopedics and oncology.^d
^{e f} Because of the improved resolution and specificity, for certain conditions more invasive procedures such as some biopsies have been replaced by MRI scans.

¹⁷ Applicant notes these projections are based on current patient panel data, as well as market factors and are subject to change. Factors such as patient choice, an aging population and increased levels of chronic disease may impact these projections. Demand for certain CPT codes may also fluctuate over time, which may impact the scan projections.

¹⁸ DPH approved acquisition of new MRI at MGPO Waltham (Partners DoN Application # PHS-18090711-HS) in 2019.

¹⁹ First year of operation for new MRI at MGPO Waltham approved in 2019

²⁰ First year of operation for new MRIs in the current Application

Table 4: Projected MRI Volume for the 10 Most Common CPT Codes for MRIs at MGPO Assembly Row			
10 Most Common CPT Code #s	Scan Projections		
	2022	2023	2024
1. 70553 (Brain Combo)	1,855	2,319	3,340
2. 72148 (Lumbar Spine)	1,285	1,606	2,312
3. 73721(Lower Extremity Joint w/o Contrast)	981	1,227	1,766
4. 74183 (Abdomen Combo)	841	1,051	1,513
5. 72197 (Pelvis Combo)	724	905	1,304
6. 72141 (Cervical Spine)	555	694	1,000
7. 70551 (Brain)	542	677	975
8. 73221(Upper Extremity Joint)	534	668	962
9. 72158(Lumber Spine Combo)	224	281	404
10. 70544(Angiography Head)	192	240	345

d) Need to address growth in demand due to an aging population at risk for particular conditions and diseases

The Applicant outlined increasing needs of the aging population in the Patient Panel, and among MGH/MGPO patients, whose present conditions may require the use of MRI. The percentage of patients age 65 and over among MGH/MGPO patients (27%) is slightly higher than that of Partners overall. About one-third of the MGH/MGPO patients obtaining MRI are aged 65+ (FY 2018). Moreover, in Massachusetts, the age 65 and older population will represent a quarter of the population by 2035.^g

The Applicant also outlined three key reasons for increasing demands based on age:

- **Risk for cancer.** Advancing age is a risk factor for cancer; 60% of new cancer cases and over 70% of cancer mortalities occur in elderly people.^h
- **Risk for musculoskeletal conditions** such as arthritis. Three-quarters of those ages 65 and older suffer from a musculoskeletal disease, including arthritis, back pain and trauma. Almost half (49.6%, 22.2 million) of adults aged ≥65 years have arthritis according to recent data.ⁱ
- **Risk for cardiovascular disease.** MR imaging of the cardiovascular system is particularly important for older adults. Age-related cardiovascular conditions for which MRI is clinically beneficial include myocardial viability and perfusion, congenital heart disease, pericardial disease, aortic disease, cardiac masses, atherosclerosis, and coronary artery diseases^j

Analysis

The Applicant outlined high current volume, projected volume growth and existing wait times for MRIs across the its sites, the need to encourage appropriate MRI use outside the hospital setting, as well as meeting the needs of patients to receive care in locally convenient locations. In order to further demonstrate the need for MRI among Partners' Patient Panel, staff recommends a Condition on reporting on the percentage of orders for MRI coming from Partners' affiliated providers as opposed to those from any other provider. This is fully described under Conditions at the end of this report.

Staff notes that when patients find travelling for their care burdensome, they may delay treatment.^{21,k} Such delays have been identified as a barrier to health services, and such barriers may lead to delays in receiving appropriate care, increased complications, and increased hospitalizations.¹ Travel to the MGH main campus for imaging needs may also have this effect. Finally, the expansion into a community setting is a logical choice given the convenience for patients and the fact that community settings are generally lower cost settings than those in hospitals.

Staff concurs that if the current need as evidenced by reported long wait times and future need due to anticipated growth in volume is unaddressed, capacity constraints are likely to limit access to diagnostic services for more acute in and out patients at MGH, and cause inefficiencies and delays in diagnosis and treatment as the population grows and ages.

The Applicant's projected volume overall, and at the new site, is provided in Tables 2-4 above. In its answers to staff questions, the Applicant noted that

"the Proposed Project will allow MGH/MGPO to more effectively manage utilization and resources across ... locations. The new location will serve as an additional setting for patients within MGPO Assembly Row's service area to seek MRI services. While this service area is distinct from the MGPO Waltham and MGPO Chelsea service areas, patients ... that currently receive services at [those sites] may choose to seek MRI services at MGPO Assembly Row This would ultimately result a shift in patient volumes and wait times among the three locations but not an overall change in volume or wait times across the three locations [MGPO Waltham, MGPO Chelsea and MGH main campus]."

Staff notes that in January 2019, DPH approved two additional 3T MRIs at MGPO Waltham, with a similar aim of shifting utilization from MGH main campus to a lower cost and more easily accessible location. In order to fully assess the impact of shifting utilization of MRIs away from the MGH main campus, and to assess whether the main campus will be better able to accommodate certain patients, staff recommends a Condition focusing on the use of 10 Most Common CPT Codes for MRIs at the MGH Main Campus, and 3 MGPO Sites. This, along with other standard outcome measures, is fully described under Conditions at the end of this report.

Factor 1: b) Public health value, improved health outcomes and quality of life; assurances of health equity

Partners states that MRI²² is a well-established non-invasive imaging modality that has been in clinical use for several decades. As noted above improvements in MRI imaging technology has expanded its diagnostic capability across many specialties. The Applicant asserts that increasing capacity will enable it to meet growing need for MRI services, improving both health outcomes and quality of life of the Patient Panel in a number of ways:

- **Contributing to improved outcomes.** Timely access to needed MRI imaging may assist in diagnosing and treating^m patients in a more timely fashion, potentially reducing treatment complications and contributing to better health outcomes.ⁿ The Applicant also described specific clinical applications for which the MRI has demonstrated improved outcomes.^{o23} Finally, the Applicant outlined its use of the clinical decision support (CDS) tool ACR Select, which the

²¹ According to [Healthy People 2020](#), having a usual PCP is associated with greater patient trust in the provider, better patient-provider communication; increased likelihood that patients will receive appropriate care; and lower mortality from all causes.

²² Using a magnetic field, MRI provides better contrast between different tissues than other imaging modalities. When compared to the more widely available 1.5T, the 3T MRI is faster than has higher resolution, superior contrast between different tissue, and the ability to image smaller structures, which is particularly beneficial in imaging the brain, prostate, breast, and also differentiate between types of tumors and infection.

²³ include still images of a heart in motion as well as imaging of the whole heart volume in a single rotation, which improves imaging of clots, defects and enlarged ventricle

Applicant states “delivers Appropriate Use Criteria²⁴ into the EHR workflow at the point of care” and guides clinicians towards the appropriate type of diagnostic exam, thereby ensuring proper ordering of MRI imaging. Moreover, the Applicant highlights that all MRI scans performed at MGPO Assembly Row will be interpreted by subspecialty radiologists in a subspecialty manner. These experts specialize in interpreting radiology images for specific parts of the body, which may improve outcomes as well.

- **Reducing wait times for needed imaging.** Currently, patients seeking outpatient MRIs at MGH’s main campus encounter wait times of 55 days.²⁵ By expanding hours through the addition of new equipment, Applicant asserts that more local patients will have access to scans in a timely manner, leading to the reduction of wait times at MGPO locations, particularly at MGH’s main campus. As a result, the main campus will be better able to accommodate inpatient MRI imaging needs²⁶ as well as improve campus access for outpatients with implantable devices who need monitoring²⁷. The Applicant notes that there might be minor shifts in site of care at other MGPO sites but does not anticipate that many ambulatory patients will change where they get MRIs since the other sites (Waltham and Chelsea) have co-located services, which this site will not have.²⁸
- **Improved patient experience through improved access in the community setting.** Local MRIs will decrease travel and associated expenses, improve ease of navigation within the smaller site. Such access is also enhanced by convenient access to public transportation and availability of free parking at the site.

Analysis: Public Health Value

Staff has reviewed the Applicant’s citation of clinical benefits of access to MRI, which is used routinely to diagnose conditions across numerous specialties, including but not limited to cancer, musculoskeletal, and cardiologic diseases. Data on these diseases and conditions confirm these ongoing growing needs, especially for the aging population:

- Cancer is the leading cause of death in Massachusetts with a mortality rate of 155.5/100,000 in 2014. Cancer incidence over the 2011-2015 time periods was 459.4 per 100,000,^p which is higher than the national average.^q Advancing age is the most important risk factor for cancer; according to the National Cancer Institute, 83.2% of new cancer cases are diagnosed in people aged 45-84, with one quarter of new cancer cases being diagnosed in people aged 65-74. The median age for a cancer diagnosis is 66 years.^r
- Three-quarters of those ages 65 and older suffer from a musculoskeletal disease, including arthritis, back pain and trauma where, depending on the condition, MRI is the most effective imaging modality.
- Cardiovascular disease is the second leading cause of death in Massachusetts. From 2013-2015, adults diagnosed with myocardial infarction annually ranged from 5.2-5.7%, and those diagnosed with angina/coronary heart disease from 4.7-5.8%.^s

Further, staff finds that the patient experience will likely be improved through improving local access to imaging since the site provides free parking and is accessible through MBTA. Age and significant medical complications make travel more difficult with increased risk.

Staff concurs that through timely access to imaging services, early and accurate diagnosis^t for many health conditions using these imaging modalities has the potential to improve outcomes since it can reduce time

²⁴ also important as part of the new CMS Medicare Appropriate Use Criteria Program

²⁵ using an 8-5 M-F available appointment time

²⁶ Public Hearing comments included detail of early morning or late night imaging for inpatients

²⁷ Public Hearing comments included detail of wait times for these patients exceeding 6 months

²⁸ except for co-located services for Partners own employees (also part of the Patient Panel)

lost from work and other activities, and for rapidly changing conditions, it may provide valuable clinical information that alters the course of treatment. As a result, patients may experience a greater sense of well-being. Because of the unique features of the MRI imaging, with no ionizing radiation exposure, it is preferable for patients needing ongoing scans, pregnant women and children.^u

However, staff also notes that the [Choosing Wisely](#) Campaign of the American Board of Internal Medicine Foundation lists certain MRI procedures whose “necessity should be questioned and discussed” by physicians and their patients. In general, the overuse of low value imaging may translate to additional scanning, worry, and unnecessary healthcare including follow-up tests, treatments, visits, hospitalizations, and new diagnoses for benign conditions.⁵ These “cascades” clearly present potential harms for patients.^v As a Condition of Approval, staff recommends the Applicant report on the effectiveness of their Clinical Decision Support (CDS) tool (which delivers Appropriate Use Criteria²⁹ into the EHR workflow) in curbing potential overuse of MRI imaging. As part of the required standard outcome measures, staff also suggests that the Applicant report on a CMS measure designed to limit Low Value MRIs. Each are fully described under Conditions at the end of this report.

Health Equity and Social Determinants of Health (SDoH)

The Applicant described efforts and provided assurances around health equity and SDoH, both as a system and within the Center.

Health Equity

- Partners HealthCare System has adopted the Culturally and Linguistically Appropriate Service ("CLAS") standards^w for all practice sites, including the new MGPO Assembly Row site
- The Applicant listed the following strategies to demonstrate compliance with the standards and ongoing commitment to diversity:
 - Diversity initiatives to address healthcare disparities, increase the percentage of employees from underrepresented groups,^{30x} build trust among people of diverse backgrounds and evaluate the hospital's progress; and
 - Ongoing education and training in CLAS for staff at all levels and across all disciplines.³¹
- Interpretation services will be arranged at the new site by MGPO staff as needed (using onsite and remote interpreters as is current practice at other Partners locations). Onsite interpreting services, including in American Sign Language and spoken languages, can be scheduled by appointment and in emergent same-day situations.
 - An estimated 95% of encounters for services will be via phone or video. Based on the Census data and citing the Cambridge Health Alliance 2017 CHNA, the Applicant has identified the seven likely most prevalent languages needed.³²

Social Determinants of Health

Each of the acute care hospitals within the Partners HealthCare System has a screening and referral program for Social Determinants of Health (“SDoH”). While variation exists among the hospitals as to the populations that are screened and the logistics for screening, at a minimum, all of the 133 Partners primary care practices that are participating in the MassHealth Accountable Care Organization (“ACO”) Program are screening patients for SDoH needs. The Applicant provided assurances that for non-MassHealth ACO patients needing support services, the same protocols will be adhered to at MGPO Assembly Row.

²⁹ as part of the new Medicare Appropriate Use Criteria Program

³⁰ concordance has been identified as an important dimension for the patient-physician relationship that may be linked to health disparities.

³¹ *Providing Safe, Effective Care for Patients with Limited English Proficiency* developed by the MGH Disparities Solution Center.

³² Spanish, Portuguese, Mandarin, Cantonese, Arabic, Japanese, Korean, and Khmer.

The Applicant noted the following features and outcomes of SDoH screening:

- The screening tool-- available in eight languages-- explores eight domains of SDoH needs (housing, food insecurity, violence, etc.), inquiring if patients have issues with any of the domains and whether they would like assistance. Screens are conducted via iPads that are linked to the Partners' electronic health record ("EHR") system, EPIC.
- SDoH screens are tracked in a patient's EHR in the EPIC system, whether there were positive responses for needs, and what supports were provided.
- When patients screen positive for an SDoH factor, staff follow-up with the patient, such as a social worker or community health worker who then confirms the request for assistance and either assists the patient directly or refers the patient to a community-based organization for specific services or supports. For the Assembly Square site, when social services are needed, MGH's social work resources and its Center for Community Health Improvement (CCHI) will be leveraged for patients as appropriate, as it is for MGH/MGPO inpatients and outpatients.
- The Applicant states that the most common SDoH that is of relevance for an imaging patient is lack of transportation. If during the pre-scan screening call such a need is identified, staff will arrange for transportation.

The Applicant stated it is monitoring available patient data on SDoH needs to better understand what the most common needs are among patients, so that they can build a strategy to create more capacity for community- based partners.

Analysis: Health Equity and SDoH

Staff finds that the Applicant's Language Access and Assistive Services Plan is sufficient, with the understanding that, as a new site, the Applicant will need to comply with requirements of the Office of Health Equity. The Applicant has sufficiently outlined, at a high level, a case for improved health outcomes and has provided reasonable assurances of health equity within the Partners system. Further, the Applicant has described how patients in the panel are screened for SDoH and how linkages to social services organizations are created. Staff notes that the Applicant is collecting and analyzing data from SDoH screening with a focus on population health. Demand for each type of service is being categorized to determine where gaps lie and where resources are needed.

Factor 1: c) Efficiency, Continuity of Care, Coordination of Care

The Applicant states it will ensure continuity and coordination of care, as staff will utilize existing processes in place at other MGPO clinic locations for linking patients to case management and social work support for and improved referrals leading to increased efficiency and improved health outcomes.^y

The Applicant's EHR system EPIC enables imaging results and information to be available to primary care and specialty physicians across the system so a patient's record can be viewed, and progress notes entered seen among specialists and PCPs for improved continuity of care. Embedded in EPIC is a picture archiving and communication system (PACS), which is a technology for storing, retrieving, and sharing images produced by medical imaging technologies, such as MRI. Further improving coordination of care, all MRI scans performed at MGPO Assembly Row will be interpreted by radiologists who specialize in interpreting radiology images for specific parts of the body which are then entered into the EHR. The availability of these integrated records ensures that patients at the Assembly Row site can benefit from care coordination with better outcomes, and improved quality of life. As stated above, the CDS tool helps to ensure appropriateness of imaging orders.

The Applicant notes that with the existing aforementioned care integration resources and programs, EHR, communication of diagnoses, treatment plans among radiologists, referring specialists and primary care physicians, better coordination of care among clinicians can occur.

Analysis

Staff concurs that when wait times for MRI are reduced, continuity and coordination of care can be more efficient, particularly as a reduction in time related to diagnosis and staging can occur. Studies show that integrated health information technology systems directly affect health outcomes, as access to a single, integrated health record improves care coordination, can reduce errors, improve patient safety, and thus lead to better patient outcomes.³³ Staff notes that the freestanding site --not co-located with other patient services-- may not generate the same efficiencies for patients as those that with multiple services at a single location.

On balance, staff finds that the Proposed Project will contribute positively to efficiency, continuity and coordination of care related to MRI service.

Factor 1: d) Consultation

The Applicant has provided evidence of consultation, both prior to and after the Filing Date, with all government agencies that have licensure, certification, or other regulatory oversight, which has been done and will not be addressed further in this report.

Factor 1: e) Evidence of Sound Community Engagement through the Patient Panel

The Department's Guideline³³ for community engagement defines "community" as the Patient Panel, and requires that at minimum, the Applicant must "consult" with groups representative of the Applicant's Patient Panel. Regulations state that efforts in such consultation should consist of engaging "community coalitions statistically representative of the Patient Panel."³⁴

The Applicant anticipates that the Proposed Project will impact patients currently seen at MGH by shifting appropriate patients out of the main campus setting to MGPO Assembly Row's community-based imaging services. Because the Applicant anticipates that the Cancer Center will be a primary source of referral for MRI services at MGPO Assembly Row leadership determined it was appropriate to engage and seek feedback from the Cancer Center Patient Family Advisory Council ("CC PFAC"). The PFAC is comprised of a group of patient and family members who have experienced different aspects of cancer care and who volunteer their time to improve care by offering their perspective on their cancer care experience. Reportedly, the members represent diversity in age, gender, race/culture and socioeconomic status, diagnosis and treatment history.

In February 2019, the Applicant's staff met with 18 members³⁵ of the PFAC to discuss the need for, and benefits of MRI services at the MGPO Assembly Row. The Applicant reports that the discussion's tone was very positive and supportive of the plan, with a consensus that there was a lack of timely access to MRI appointments necessitating the need to eliminate the backlog and the benefits of avoidance of the city for scans being expressed by the group, with no concerns raised about the Proposed Project.

Analysis

Staff reviewed the information on the Applicant's community engagement and the meeting where the Proposed Project was introduced and finds that the Applicant appears to have met the minimum required community engagement standard of *Consult* in the planning phase of the Proposed Project.

³³ Community Engagement Standards for Community Health Planning Guideline

³⁴ DoN Regulation 100.210 (A)(1)(e). <https://www.mass.gov/files/documents/2018/12/31/jud-lib-105cmr100.pdf>

³⁵ 14 were patients/family and 4 were staff

Factor 1: f) Competition on price, total medical expenses (TME), costs and other measures of health care spending

The Applicant asserts that through the Project, it will continue to compete based on price, TME, costs and other measures of health care spending through the addition of these three MRI units. Improved access to needed imaging, decreases in patient wait-times, particularly for inpatients and those with implantable devices, and efficiencies of maximizing the use of the existing tools that enhance coordination of care are likely to not impact TME or the cost of services.

The Applicant also notes that in many cases, prompt access to MRI will enable patients to a) avoid undergoing more invasive, or less effective diagnostic or treatment, such as biopsies, therapies that may be more expensive and/or invasive, as well as b) benefit from more targeted treatment plans, both of which are likely to result in reductions in healthcare spending. These improvements can result in lower provider and payer costs and lower out of pocket expenses for patients, leading to a reduction in TME. When services can be delivered to patients in a timely, high quality manner, the Applicant will be able to ensure its competitive position as patients will want to continue to utilize the service.

Analysis

It has been well established that improving access to timely care is likely to reduce healthcare utilization and spending.^{aa,bb} Moreover, numerous studies have detailed high costs for unnecessary repeat imaging^{cc} which may be ameliorated through appropriate use of MRI. For the Proposed Project, reducing operational inefficiencies will lead to lower operational overhead and lower healthcare spending, which may reduce TME.

Staff also notes that excessive imaging and its related costs remains a concern in the Commonwealth. “Massachusetts ranks 4th in the nation in Medicare spending for imaging, reflecting both higher utilization and greater use of higher-priced hospital outpatient departments.... Common diagnostic imaging includes X-rays, CT scans, and MRIs. Many of these imaging services have been shown to have no diagnostic value for certain conditions.”^{dd} As noted above, one way of assessing imaging overuse is evaluating the effectiveness of the CDS tool.

Staff finds that with approval of recommended conditions, on balance, the requirement that the Proposed Project will likely compete on the basis of price, TME provider costs, and other measures of health care spending has been met.

Description of proposed measures, suggested Conditions, FACTOR 1

As a result of information provided by the Applicant and additional analysis, staff finds that with the conditions outlined below, the Applicant has demonstrated that the Proposed Project has met Factors 1(a-f).

Staff recommends adding three Conditions requiring specific reporting, described fully under Conditions:

- a) Total MRI volumes by site, and by the 10 Most Common CPT Codes for MRIs at the MGH Main Campus and the 3 MGPO Sites;
- b) On the effectiveness of the Clinical Decision Support tool for MRI orders; and
- c) On the percentage of orders for MRI coming from Partners' affiliated providers as opposed to those from any other provider.

In addition, the Applicant proposed specific outcome, process and balancing measures to track the impact of the Proposed Project. Staff reviewed the suggested measures and has provided a revised list of Annual

Reporting measures, including a report on one CMS Outpatient Imaging Efficiency measure, described fully under Conditions and in Attachment 1. Staff recommends that, in order to completely address Factor 1, all of these reporting measures be required as a Condition of Approval.

Factor 2: Cost containment, Improved Public Health Outcomes and Delivery System Transformation

The Applicant discussed how the Proposed Project will align with the Commonwealth's goal for cost containment, as well as contribute to improved public health outcomes.

Cost Containment

The Applicant states that the Proposed Project seeks to align with the cost containment goals of Massachusetts by providing high-quality imaging services for patients in a cost-effective community-based setting in which reimbursement rates will remain the same as its current rates at other MGPO outpatient sites. The Applicant states that the rates will be at independent treatment facility (IDTF) rates, which are lower than Hospital based rates. As a result, the Applicant asserts that total medical expenses (TME) will not be negatively impacted and that costs to patients may be less; as well, generally copays are lower in the community setting. The Applicant stated that the Proposed Project will save patients travel expenses for gas, parking and extended time away from work. Finally, the Applicant noted that care and operating efficiencies may be created through the shift of appropriate patients to the Assembly Row satellite. The Proposed Project will allow for greater number of patients to receive imaging services in a cost-effective community setting, and also allow MGH to free up hospital resources to more efficiently care for particular patients.

When asked about tracking savings to the system in supplemental questions, the Applicant reports that it would be difficult to track the benefits of MRI on cost savings as a result of earlier diagnosis and unnecessary testing on the entire population of patients having multiple diseases/conditions.

Analysis: Cost Containment

Generally, within a facility or system, cost containment can occur in two ways: a) by designing and implementing efficient processes that eliminate resource use, including staff time and supplies, thereby controlling per procedure/service operating expenses; and/or b) reducing unnecessary utilization that includes eliminating low value care while ensuring timely access to the appropriate diagnostic and testing tools. Each of these strategies saves patients and providers time and money, and much of this has already been reviewed in Analysis of Factor 1(f) above. Staff notes that freestanding sites --not co-located with other patient services-- may not generate the same degree of efficiencies as those that share operating costs through employing such strategies as shared resources such as space and staffing for programs. However, staff believes the Proposed Project has the potential for the Applicant to maintain or lower certain operating costs through efficiencies described above, as well as through more appropriate MRI usage at MGH.

Cost containment on a statewide level is impacted through pricing, which is a function of what providers charge payers and what payers agree to pay. While payment contracts between individual providers and commercial payers are confidential, those among providers and Medicare and Medicaid are relatively transparent. As a result, staff cannot assess how the Applicant's contracts with payers that may incentivize more or less utilization of services, are structured. The Applicant asserts that the community-based contract rates from commercial payers can be as much as 50% less than the hospital-based rates, however staff is unable to verify this given the confidential nature of these contracts.

While it is clear that improvements in patient health outcomes result from appropriate diagnostic use of MRI for many healthcare conditions, staff has already noted the impact of low value care. Because of their

high procedural costs, overuse of imaging may also contribute to potentially unnecessary spending on the part of patients and payers. As already noted, staff recommends a Condition on reporting on the effectiveness of the CDS tool and recommends that the required measures for annual reporting include a report on one CMS Outpatient Imaging Efficiency outcome. These Conditions may also help ensure inappropriate utilization does not drive up costs.

Staff considered the Applicant's assertions of using existing tools and strategies to reduce low value utilization alongside its position as a high-cost provider as well as the Applicant's desire to provide services in a community, lower cost setting. In order to evaluate the Applicant's assertion that expanding services through the Proposed Project will not lead to increased costs and raise prices from the status quo, staff will rely on required reporting to DoN to assess how the project is meeting the cost containment goals of the Commonwealth and related reports from CHIA and HPC to monitor provider spending.

As a result of the above analyses, Staff believes that the project has the potential to impact healthcare expenditures positively, due to aforementioned reduced reimbursement for MRI in the community setting vs the main MGH, where patients are currently going for their MRIs.

Improved Public Health Outcomes

The Applicant has discussed how improved access to these diagnostic tools can lead to more appropriate, timely treatments that ultimately can reduce morbidity and mortality for numerous diseases and conditions. These issues have been discussed earlier in this report.

Analysis: Public Health Outcomes

As detailed elsewhere in this Report, while it is clear that improvements in patient health outcomes result from appropriate diagnostic use of MRI for many healthcare conditions, some imaging procedures have been identified as low value care. As noted above, staff recommends two Conditions on reporting on the effectiveness of the CDS tool and reporting on one CMS Outpatient Imaging Efficiency outcome.

Delivery System Transformation

Overall, the Applicant **notes that Delivery System Transformation** will be addressed through linking patients to social service programs through its SDoH screening and referral, described above. The Applicant reports on its ongoing efforts to analyze its SDoH screening tracking data to assess where there are gaps in services and resources needed. The Applicant also states that 57.9% of Partners primary care lives are covered in risk contracts^{36,37} of the Partners primary care physicians (PCPs) that are covered under risk contracts (Partners bears some risk); this percentage does not include patients referred from other plans. Further, the Applicant reports on two additional ongoing assessment efforts which have the potential to improve continuity of care for its patients and to assist in future resource allocation: one is to enable social service organizations to enter the disposition of a Partners' patient in a site once a referral has been made, and the other is to amalgamate and analyze its SDoH screening and tracking data to assess where there are gaps in services their patients are referred to and what resources are needed.

Analysis: Delivery System Transformation

Central to the goal of Delivery System Transformation is the integration of social services and community-based expertise. The Applicant has described how "covered lives" patients in the panel are assessed and how linkages to social services organizations are created. This has the potential to improve the continuity of care for a large section of Partners' patients, since the Applicant is a MassHealth ACO (Partners HealthCare

³⁶ The number of risk members is for CY2019 and includes members from the following risk contracts: MassHealth ACO, Medicare Shared Savings Program, BCBS AQC and BCBS PPO, HPHC, TAHP, AllWays Commercial. The total number of patients within a PCP's panel is for FY 2017 adult and pediatric patients.

³⁷ This percentage differs from the Partners' Patient Panel described the DoN Application.

Choice), a Medicare ACO (Next Generation ACO), and has five commercial risk contracts. As such, it has ongoing incentives to address population health needs and SDoH. This has the potential to improve the continuity of care for a large section of Partners' patients overall.

Description of proposed measures, suggested Conditions, FACTOR 2

As a result of information provided by the Applicant and additional analysis, staff finds that with the conditions outlined below, the Applicant has demonstrated that the Proposed Project has met Factor 2. Staff recommends adding a Condition requiring specific reporting, described fully under Conditions, and repeated from Factor 1 on the effectiveness of the Clinical Decision Support tool for MRI orders, and recommends that the required measures for annual reporting include a report on one CMS Outpatient Imaging Efficiency measure.

Factor 3: Relevant Licensure/Oversight Compliance

The Applicant has provided evidence of compliance and good standing with federal, state, and local laws and regulations and will not be addressed further in this report.

Factor 4: Demonstration of Sufficient Funds as Supported by an Independent CPA Analysis

The CPA analysis included a review of numerous documents in order to form an opinion as to the feasibility of the Proposed Project including:

- Five Year *Pro-Forma*³⁸ Statements for the Project
- FY 2017 and 2018 audited financial statements for Partners HealthCare System, Inc. and Affiliates
- A five-year *Financial Framework* for PHS³⁹
- Annual reports and other public documents

During its review of the Pro-Forma, the CPA examined the underlying assumptions used by the Applicant to develop the revenue and expense forecasts. Additionally, key metrics and financial ratios for profitability, liquidity, and solvency were compared to historic performance to measure Partners' overall financial health.⁴⁰

The CPA reports that Net Patient Service Revenue (NPSR) is the sole category that would be impacted by the Proposed Project. Consequently, it only analyzed NPSR, and reports that the project represents a very small share of projected operating revenue of the Partners Healthcare System. The first year revenue from the Proposed Project would be realized, 2021 it is projected to be 0.05%, and in 2023 it is 0.09%. The CPA reports that primarily based upon historic performance, the revenue growth projected by Management is a reasonable estimation.

The CPA's analysis reports that operating expenses will represent only about 0.042% in 2021 and 0.064% in FY 2023 of Partners total operating expenses; and relative to historic performance, it determined that the Applicant's projections are reasonable. The analysis included the impact of the capital expenditures for this Proposed Project relative to other loan financing obligations on cash flow in the context of the Applicant's ability to reinvest in plant and equipment, and the CPA determined that the impact of such an investment is reasonable.

³⁸ FY 2019-2023

³⁹ Prepared as of August 20, 2019

⁴⁰ Incorporated in the overall financial projections, the CPA noted a balloon payment on long-term debt maturing in 2021.

In conclusion, the CPA reports, “The impact of the proposed capital projects at MGPO Assembly Row, ... represent a relatively insignificant component of the projected operating results and financial position of Partners HealthCare. As such, I determined that the Projections are not likely to result in a scenario where there are insufficient funds available for capital and ongoing operating costs necessary to support the ongoing operations of Partners HealthCare. Therefore, it is my opinion that the Projections are financially feasible for Partners HealthCare.” The report continued with the following statement: “... I determined the projects and continued operating surplus are reasonable and based upon feasible financial assumptions....The proposed capital projects at MGPO Assembly Square are financially feasible and within the financial capability of Partners HealthCare.”

Staff finds the CPA analysis to be acceptable, meeting the standard of Factor 4, noting the favorable operating margin of 5.5%⁴¹ is greater than the average of the Academic Medical Center peer cohort in 2017⁴¹ based on reporting by CHIA.⁴²

Factor 5: Assessment of the Proposed Project’s Relative Merit

The Applicant noted the capital costs of implementing the Proposed Project are \$14 million including the three 3T MRIs and associated construction costs to establish a new site of service. Further, the Applicant states that the annual operating cost of the new site will be \$12.9 million once fully operational and ramped up to full operating volume (of ~ 26K scans) in year 5. The Applicant provided one alternative for the Proposed Project: to forego any expansion MRI technology and sustain the current fleet of MRI units across MGPO and MGH’s locations. The Applicant argued that this was not feasible, as demand for services, wait times, patient experience, and convenience would not be addressed and would have a negative impact on MGPO and MGH patients alike.

Staff agrees that the above alternative of maintaining the status quo means that wait times will likely continue to increase. The effects of delayed diagnosis and treatment could negatively impact outcomes and patient satisfaction with added costs related to additional resource use for coordination of care. Travel time is clearly a concern; with the efficient use of all of the Applicant’s MRI units system-wide being optimal, travel times to the closest MGPO outpatient site in Chelsea takes about an hour each way by public transport. As a result of information provided by the Applicant and additional analysis, staff finds the Applicant has reasonably met the standards of Factor 5.

Factor 6: Fulfillment of DPH Community-based Health Initiatives Guideline

Summary and relevant background and context for this application: The Applicant is engaged in a new process to fulfill their requirements for a Community Health Initiative (CHI). The Proposed Project is in a community not covered in any of its Community Health Needs Assessments (CHNA), which would have required the Applicant to fulfill CHI requirements by contributing its entire financial obligation to the CHI Statewide Fund.

As an alternative, the Applicant is partnering with Cambridge Health Alliance (CHA)⁴³ to utilize their needs assessment conducted for Somerville; the CHI contribution will therefore support an initiative led by CHA. CHA is uniquely positioned to understand the needs of the Somerville community and to implement a community health improvement project therein. In conducting this process, CHA

⁴¹ The average of the Academic Medical Center peer cohort in 2017 was 1.8%

⁴² Staff relies on the CPA Analysis and CHIA reporting and does not perform its own financial analysis.

⁴³ While CHA is exempt from the requirements in the Affordable Care Act for traditional CHNAs, it has utilized community engagement and data analysis methods to assess community needs and identify and implement improvement strategies. Through robust community engagement, Cambridge Health Alliance has coordinated several needs assessment phases and strategies to guide population and community health improvement efforts.

partners with the City of Somerville and engages its 30-member Advisory Group (comprising large sectoral representation) as well as external facilitation.

The Applicant has adopted a new advisory committee structure to facilitate these processes. The CHA Advisory Group will continue to advise and provide oversight of the DoN processes related to community engagement and community health planning (as part of the plan to transfer CHI funds from the Applicant to CHA). In coordinating Somerville-based community engagement processes, the Applicant has utilized community wide surveys, focus groups, and in person convenings to obtain community input, and will further engage the community across stages of the CHNA/CHIP process from assessment through prioritization and project planning.

The Applicant, in conjunction with Cambridge Health Alliance submitted the following documents:

- **The Community Health Needs Assessment** is the Wellbeing of Somerville Report of 2017 (Report). In creating the Report, CHA and the City of Somerville utilized robust community engagement strategies (including multiple in person gatherings and secondary data collection methods) and included a review of earlier assessments and reports. The Report outlined a life course perspective and presented community demographic and health indicator information across life stages.
- **In the Self-Assessment[#]**, the Applicant utilized the Report to provide a summary of socio-demographic data and highlights of health outcome information related to these topics, as well as key concerns from community members.
- **The CHI Narrative and Community Engagement Plan[#]** provided background information for and explanation of current CHI planning processes, advisory structure, engagement strategies, needs assessment history, and administrative information for CHA (as they will conduct the CHI processes connected with the proposed DoN project.) The plan included data from the Report along with elements of the Somerville Community Health Agenda⁴⁴. Each of these processes included the CHA health system, community-based organizations, businesses, and local residents.
- **The Community Engagement Plan Supplement[#], requested by staff** provided additional information about the CHI Engagement process and described areas of overlap and enhanced collaboration with the 2017 Report and other areas of the Somerville Community Health Agenda. The engagement processes included community wide surveys, focus groups, and in person convenings to obtain input on community health needs. The Applicant described plans and activities diagnosing community conditions and prioritizing strategies at the root cause level. Issues were prioritized through a multi-sector engagement process including subject matter experts, community members and health system stakeholders. It also provided further detail on the plans to engage community across stages of the CHNA/CHIP process from assessment through prioritization and project planning.
 - Staff requested additional information on the planned mechanism for identifying and acting upon the community conditions influencing the needs and priorities identified throughout the assessment process. In order to fully meet Factor 6, Staff recommends a Condition for the Applicant to hold additional community meetings to obtain feedback and understanding from residents and other stakeholders, outlined below.
- **Stakeholder assessments are normally required, but were, appropriately in this case, not submitted.** Instead, based on staff request, the Applicant provided additional information on its plans for prioritizing and operationalizing community needs and strategies with a focus on Social Determinants of Health in the Community Engagement Plan Supplement described above.

⁴⁴ The Wellbeing of Somerville Report of 2017 and the Somerville Community Health Agenda are community-based materials created in collaboration with the City of Somerville and Cambridge Health Alliance.

- **The Health Priorities Strategy Form**, as required in the Community Engagement Standards for Community Health Planning Guideline, was listed in their timeline of activities, and will be submitted 4 months post DoN approval.

#- available at <https://www.mass.gov/lists/don-partners-healthcare-system-inc-somerville-mris>

In order to help strengthen particular elements of their planned CHI processes, staff will be working with the Applicant in the following areas:

- Social Determinants of Health Framing: As noted above, the Applicant detailed extensive community activities undertaken as part of the Somerville Community Health Agenda and the Report. Staff will advise on how best to identify and act upon influential community conditions;
- Ongoing Community Engagement Processes: staff will advise on how to ensure community input is captured at each point in the CHI process beyond the CHNA; and
- Planned use of Administrative Funds: Staff will continue to advise on the appropriate ongoing use of Administrative Funds.

Analysis: As a result of information provided by the Applicant and additional analysis, staff finds that with the conditions outlined below, and with their ongoing commitment to work with staff on the above outlined issues and based on planning timelines that staff will approve, the Applicant has demonstrated that the Proposed Project has met Factor 6.

Public Hearing

Within thirty days of the filing date, the public has the opportunity to comment on all DoN Applications, form a ten taxpayer group (TTG), and to request a public hearing in the service area of the proposed project. Two TTGs formed, one representing Melrose Wakefield Hospital, and the other representing Shields HealthCare; both requested a public hearing. In response, the Department conducted a public hearing on November 20, 2019 in Assembly Square.⁴⁵

There were eight speakers, five in favor of the project and three (one from a TTG) voicing concerns. The proponents represented the Applicant, including the Director of Clinical Operations for MRI & Off-Campus Imaging at MGH, as well as staff and clinicians. They spoke about the extreme challenges in scheduling needed MRIs at the main MGH campus—even with expanded operating hours-- and the main reasons that the demand for imaging has grown. First, that it has replaced more invasive procedures, such as many biopsies⁴⁶; and second, that by following cancer patients more frequently with MRI “subtle changes may alter the course of a chemotherapeutic regimen, such as from one drug to another saving patients time, and money.”⁴⁷ The speakers noted that even at “extreme hours of the day,”⁴⁸ outpatients wait up to four weeks and inpatients may be awakened in the middle of the night for their scans. The representative of the Applicant summarized the purpose of the current Application: to reduce the impact of wait times, to meet the demands of the Patient Panel for more timely access to MRI imaging, and to provide increased access to high-quality, low-cost services in a community-based outpatient care setting that is more convenient for many of their patients. Finally, the representative reiterated the data listed in the application about the Panel need.

The CEO of the Somerville Chamber of Commerce also spoke of the benefits in terms of economic development that Partners has brought to the area.

Three speakers representing Melrose Wakefield Healthcare⁴⁹ voiced three main areas of concern about the Proposed Project. First, the speakers noted that in keeping with the Commonwealth’s goals of cost containment and delivery system transformation, within the past three years, the hospital and physicians have formed a collaboration and partnership with Tufts Medical Center to create low-cost healthcare network with what they assert is a 30%+ cost savings to the health care system; this is attributed to the hospital delivering appropriate care in the community and tertiary care at Tufts Medical Center.⁵⁰ Speakers described the concern that patients will be referred out of the community based setting to the more expensive AMC, along with difficulties community hospitals have to remain viable. The speakers from the TTG expressed concerns that the expansion of MRI services within a larger system may draw patients from other area providers, who are outside of the Applicant’s current Patient Panel. When larger systems are granted approval to develop services that compete with the community hospital’s profitable service lines, the viability of the entire line of services within a hospital may be jeopardized. Further, the commenters reported that one local physician stated he experienced no difficulty in finding local available MRI appointments for his patients.

The TTG representing Shields neither spoke nor submitted testimony.

⁴⁵ A transcript of the hearing can be found on the DoN website: <https://www.mass.gov/doc/partners-healthcare-system-somerville-mri-public-hearing-comments/download>.

⁴⁶ can characterize the type of tumor

⁴⁷ a course of chemotherapy can cost \$200K-\$300K.

⁴⁸ first appointment is at 6am and last is at 10:15pm

⁴⁹ Melrose Wakefield is a community high public payer hospital. Center for Health Information and Analysis. Acute Hospital Profiles-FY 2017 <http://www.chiamass.gov/assets/docs/r/hospital-profiles/2017/melrose.pdf>

⁵⁰ Tufts had the lowest standard relative price of any AMC for FY 2017, while Partners’ AMCs were the highest. Center for Health Information and Analysis. Acute Hospital System Profiles-FY 2017, <http://www.chiamass.gov/assets/docs/r/hospital-profiles/2017/tufts.pdf>

Other Public Comments Received

DPH received 22 written comments from 22 individuals; 18 in favor of the project and 4 voicing concerns. (Of those expressing concerns, one commenter was part of the Melrose-Wakefield TTG and also spoke and provided written testimony at the public hearing.) Comments opposing the project requested that DPH investigate, through its analysis:

- the wait times for MGPO MRIs in more detail throughout Partners and at MGH, especially considering extended hours of operation;
- the true need of Partners' Patient Panel for MRIs in the Somerville area and whether the volume of scans projected in the Application were excessive;
- where patients go for care after they receive an MRI and the relative costs for post MRI healthcare utilization as compared to the statewide median; and
- to verify the Applicants' ability to compete on price.

They also expressed concern about how DPH defines Patient Panel, as these patients are not "exclusive" to Partners.

Comments in support related to wait times and the inefficiencies of trying to schedule an MRI at MGH.

The Applicant asked for the correction of Scrivener's errors and a change to one condition; these corrections appear in red throughout this version of the Staff Report. This document replaces the original Staff Report in its entirety.

Staff Analysis

Staff recognizes the important and complex issues raised by the TTGs and the public. Staff is required to base our analysis on the health care delivery systems of care and its Patient Panel need as related to the regulatory Factors. The Applicant has described the Partners' Patient Panel need for the MRI services being requested.

Staff concurs with the Applicant and with the TTG and others that it is important to shift MRI utilization from the MGH main campus to lower cost and more easily accessible locations. In order to fully assess the impact of shifting utilization of MRIs away from the MGH main campus, and to assess whether the main campus will be better able to accommodate certain patients, staff has suggested a Condition focusing on the reporting of the volumes of MRIs at the MGH Main Campus, and all three MGPO Sites. We have also suggested a condition monitoring the percentage of MRI orders that originate inside and outside the Partners system.

The TTG suggested that the requested number of machines is too great by stating a capacity of 8,000 scans per machine using 16-hour days, 30 minutes per scan, and 250 business days per year. Based on previous methodologies used, staff does not find this to be realistic. Generally, MRI capacity including room turnover has assumed three quarters to one hour per scan; further, the assumption of 16-hour days may be realistic for an inpatient site, but for an outpatient site operating from, for example, 6:30 to 10:30, is not optimal for patients. In order to ensure access to services for working families, we would expect realistic extended hours that, depending on the circumstances, might include 13 to 14 hours of operation, and some weekend hours; such estimates would range from 5200⁵¹ to 7000⁵² per machine per year.

⁵¹ Includes 13 hours per weekday and 8 weekend hours

⁵² Includes 14 hours per weekday and 10 weekend hours

With respect to the TTG's request that Staff review relative costs for post MRI healthcare utilization as compared to the statewide median. The collection and analysis of such data would be difficult to attribute to the episode of care relative to the MRI, since for example some MRI's are related to a single injury or incident while others are recurring for longer term treatments for diseases such as cancer. DoN's review of costs is discussed above under the appropriate factors, 1(f), 2, and 4.

Findings and Recommendations

Based upon a review of the materials submitted, Staff finds that, with the addition of the recommended conditions detailed below and in Attachment 1, the Applicant has met each DoN Factor for the Proposed Project, and recommends that the Department approve this Determination of Need, subject to all applicable standard and Other Conditions.

In order to demonstrate that Proposed Project will add measurable public health value in terms of improved health outcomes, quality of life, and to further demonstrate the need of the Applicant's Patient Panel, the Holder shall, on a yearly basis:

1. Report on differential use of inpatient and outpatient MRI at the MGH Main Campus, and 3 MGPO Sites, at baseline and at the end of each reporting year, in order to fully assess the impact of shifting utilization of MRIs away from the MGH main campus. Such reports shall include the total volume by site, differentiating outpatient and inpatient scans, and also the most common CPT codes for each of the following, enabling easy comparison across the 4 sites:
 - a. MGH main campus only
 - b. MGPO Waltham
 - c. MGPO Chelsea
 - d. MGPO Assembly Row

*** Overall, such use shall not appreciably increase over the projections included in this Staff Report.*

2. Report on the percentage of orders for MRI coming from Partners' affiliated providers vs. those from any other provider.
3. In order to demonstrate appropriate use of MRI, report on the effectiveness of the MGPO Assembly Row site providers' use of the American College of Radiology (ACR) Clinical Decision Support tool "ACR Select" for Adult MRI imaging orders (or any subsequent CDS). Holder shall provide, at minimum
 - a) data showing yearly changes in "low utility" or "marginal utility" MRI orders; and
 - b) percentage of provider response to alerts provided by ACR Select (or any subsequent CDS)
4. Report on improvement of measures outlined in Attachment 1.

CHI Conditions to the DoN

5. Of the total required CHI contribution of \$749,178.65
 - a) \$181,675.82 will be directed to the CHI Statewide Initiative
 - b) \$545,027.48 will be dedicated to local approaches to the DoN Health Priorities, of which up to 10% of these funds may be used for evaluation purposes
 - c) \$22,475.35 will be designated as the administrative fee
6. To comply with the Holder's obligation to contribute to the Statewide CHI Initiative, the Holder must submit a check for \$181,675.82 to Health Resources in Action (the fiscal agent for the CHI Statewide Initiative).

- a) The Holder must submit the funds to HRiA within 30 days from the date of the Notice of Approval.
 - b) The Holder must promptly notify DPH (CHI contact staff) when the payment has been made.
- 7. Within three months post approval, the Holder shall submit to DPH a detailed report on activities based on feedback and input from additional community meetings and engagement regarding community conditions.
 - 8. Within four months post approval, the Holder shall submit to DPH the completed Health Priorities Strategy Form, as required in the Community Engagement Standards for Community Health Planning Guideline.

It is important to note that while Cambridge Health Alliance will implement the CHI processes, Partners as the Holder will be ultimately responsible for timely communication with and submission of deliverables to DPH.

Attachment 1: Required Measures for Annual Reporting

The Holder shall provide, in its annual report to the Department, reporting on the following measures. These metrics will become part of the annual reporting on the approved DoN, required pursuant to 105 CMR 100.310(A)(12).

9. Patient Experience/Satisfaction (Press Ganey)

Overall satisfaction of care provided (fair or lower only) *

Holder shall report on the following:

- a) Satisfaction rate for patients receiving MRI
- b) Patient response rate with a breakdown of respondents by race
- c) Any policy changes instituted as a result of Holder's evaluation of fair or lower ratings

Holder shall report on progress in making (ongoing) reductions* in

10. Wait Times: Holder shall Report on the following:

Time interval (in days) from when the case was initiated for scheduling in EPIC, to the next available outpatient appointment, across 4 sites^{aaa}. Holder shall Report on the following:

- a) Median number of days between ordering elective MRI and imaging test performed.
- b) Median number of days from the completion of a patient's MRI service at the MGPO Assembly Row site to finalization of radiology report
- c) Any policy changes instituted as a result of Holder's evaluation of increasing days
- d) Operating hours for each of the 4 sites^{vv}

11. Percentage of MRI scans that triggered an Important Finding Alert (IFA) that the radiologist conducted a critical value report. Holder shall report on the following:

- a) % of IFAs where critical value report indicated
- b) % of critical value reports radiologists performed over the total number of IFAs
- c) Any policy changes instituted as a result of increasing critical value reporting

Holder shall also report on imaging efficiency*

12. Imaging Efficiency Measures

As is required for calendar year (CY) 2020 payment determinations, the Holder will report on one [CMS Outpatient Imaging Efficiency \(OIE\)](#) measure that are publicly reported within the Hospital Outpatient Quality Reporting (OQR) Program:

- a) MRI Lumbar Spine for Low Back Pain (OP-8)

This publicly reported OIE measure is calculated using data from hospital outpatient claims paid under Medicare's Outpatient Prospective Payment System (OPPS).

***If improvement (e.g., decrease or increase from baseline) is not achieved, Holder shall report on reasons why and outline plans for improvement**

^{aaa} 4 sites:

- a. MGH main campus only
- b. MGPO Waltham
- c. MGPO Chelsea
- d. MGPO Assembly Row

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